

# **Network Video Recorder**

**Quick Operation Guide**

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Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer. This manual is applicable to the models listed in the following table.

Series	Model	Type
WH-N5XXX	WH-N5204-P4	Network Video Recorder
	WH-N5208-P8	
	WH-N5316-P16	

## NVR Pre-Installation

These series NVR are highly advanced surveillance equipment that should be installed with care. Please take into consideration the following precautionary steps before installation of the NVR.

1. Keep all liquids away from the NVR.
2. Install the NVR in a well-ventilated and dust-free area.
3. Ensure environmental conditions meet factory specifications.
4. Install a manufacturer recommended HDD.

## NVR Installation

During the installation of the NVR:

1. Use brackets for rack mounting.
2. Ensure there is ample room for audio and video cables.
3. When routing cables, ensure that the bend radius of the cables are no less than five times than its diameter.
4. Connect both the alarm and RS-485 cable.
5. Allow at least 2cm ( $\approx 0.75$ -inch) of space between racks mounted devices.
6. Ensure the NVR is grounded.
7. Environmental temperature should be within the range of  $-10^{\circ}\text{C} \sim 55^{\circ}\text{C}$ ,  $14^{\circ}\text{F} \sim 131^{\circ}\text{F}$ .
8. Environmental humidity should be within the range of 10% ~ 90%.

## Hard Disk Installation

### *Before you start:*

Disconnect the power from the NVR before installing a hard disk drive (HDD). A factory recommended HDD should be used for this installation.

Up to 8 SATA hard disks can be installed on your NVR.

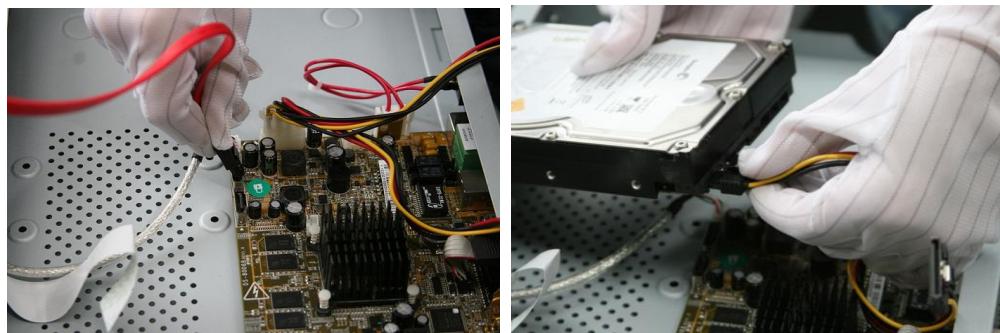
**Tools Required:** Screwdriver.

### *Steps:*

1. Remove the cover from the NVR by unfastening the screws on the rear and side panel.



2. Connect one end of the data cable to the motherboard of NVR and the other end to the HDD.



3. Connect the power cable to the HDD.



4. Place the HDD on the bottom of the device and then fasten the screws on the bottom to fix the HDD.



# Front Panel

WH-N5204-P4 & WH-N5208-P8



Front Panel of 4ch/8ch

Description of Front Panel

No.	Name	Function Description										
1	Status Indicators	<p>POWER: the POWER indicator turns green when NVR is powered up.</p> <p>READY: The indicator light is green when the device is running normally.</p> <p>STATUS: 1.The light is green when the IR remote control is enabled; 2.The light is red when the function of the composite keys (SHIFT) are used; 3. The light is out when none of the above condition is met/</p> <p>ALARM: the light is red when there is an alarm occurring.</p> <p>HDD: the indicator flickers red when HDD is reading/writing.</p> <p>Tx/Rx: TX/RX indicator flickers green when network connection is functioning normally.</p>										
2	USB Interfaces	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).										
3	Composite Keys	<table border="1"> <tr> <td>1/MENU:</td> <td>Enter numeral “1”; Access the main menu interface.</td> </tr> <tr> <td>2/ABC/F1:</td> <td>Enter numeral “2”; Enter letters “ABC”; The F1 button when used in a list field will select all items in the list. In PTZ Control mode, it will turn on/off PTZ light and when the image is zoomed in, the key is used to zoom out.</td> </tr> <tr> <td>3/DEF/F2:</td> <td>Enter numeral “3”; Enter letters “DEF”; The F2 button is used to change the tab pages. In PTZ control mode, it zooms in the image.</td> </tr> <tr> <td>4/GHI/ESC:</td> <td>Enter numeral “4”; Enter letters “GHI”; Exit and back to the previous menu.</td> </tr> <tr> <td>5/JKL/EDIT:</td> <td>Enter numeral “5”; Enter letters “JKL”; Delete characters before cursor; Check the checkbox and select the ON/OFF switch; Start/stop record clipping in playback.</td> </tr> </table>	1/MENU:	Enter numeral “1”; Access the main menu interface.	2/ABC/F1:	Enter numeral “2”; Enter letters “ABC”; The F1 button when used in a list field will select all items in the list. In PTZ Control mode, it will turn on/off PTZ light and when the image is zoomed in, the key is used to zoom out.	3/DEF/F2:	Enter numeral “3”; Enter letters “DEF”; The F2 button is used to change the tab pages. In PTZ control mode, it zooms in the image.	4/GHI/ESC:	Enter numeral “4”; Enter letters “GHI”; Exit and back to the previous menu.	5/JKL/EDIT:	Enter numeral “5”; Enter letters “JKL”; Delete characters before cursor; Check the checkbox and select the ON/OFF switch; Start/stop record clipping in playback.
1/MENU:	Enter numeral “1”; Access the main menu interface.											
2/ABC/F1:	Enter numeral “2”; Enter letters “ABC”; The F1 button when used in a list field will select all items in the list. In PTZ Control mode, it will turn on/off PTZ light and when the image is zoomed in, the key is used to zoom out.											
3/DEF/F2:	Enter numeral “3”; Enter letters “DEF”; The F2 button is used to change the tab pages. In PTZ control mode, it zooms in the image.											
4/GHI/ESC:	Enter numeral “4”; Enter letters “GHI”; Exit and back to the previous menu.											
5/JKL/EDIT:	Enter numeral “5”; Enter letters “JKL”; Delete characters before cursor; Check the checkbox and select the ON/OFF switch; Start/stop record clipping in playback.											

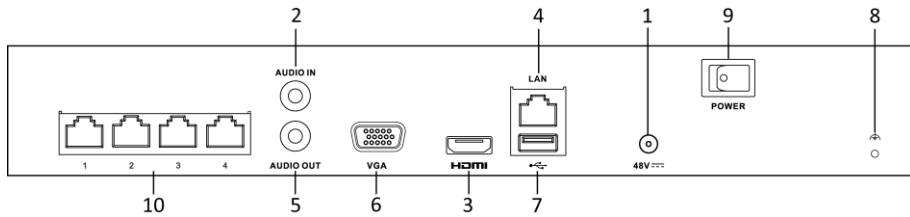
No.	Name	Function Description
	<b>6/MNO/PLAY:</b>	Enter numeral “6”;
		Enter letters “MNO”;
		Playback, for direct access to playback interface.
	<b>7/PQRS/REC:</b>	Enter numeral “7”;
		Enter letters “PQRS”;
		Open the manual record interface.
	<b>8/TUV/PTZ:</b>	Enter numeral “8”;
		Enter letters “TUV”;
		Access PTZ control interface.
	<b>9/WXYZ/PREV:</b>	Enter numeral “9”;
		Enter letters “WXYZ”;
		Multi-channel display in live view.
	<b>0/A:</b>	Enter numeral “0”;
		Shift the input methods in the editing text field. (Upper and lowercase, alphabet, symbols or numeric input).
		Double press the button to switch the main and auxiliary output.
<b>4</b>	<b>SHIFT</b>	Switch between the numeric or letter input and functions of the composite keys. (Input letter or numbers when the light is out; Realize functions when the light is red.)
<b>5</b>	<b>Control Buttons</b>	<p>Directional buttons:            In menu mode, the direction buttons are used to navigate between different fields and items and select setting parameters.            In playback mode, the Up and Down buttons are used to speed up and slow down record playing, and the Left and Right buttons are used to move the recording 30s forwards or backwards.            In the image setting interface, the up and down button can adjust the level bar of the image parameters.            In live view mode, these buttons can be used to switch channels.</p> <p>Enter:            The Enter button is used to confirm selection in menu mode; or used to check checkbox fields and ON/OFF switch.            In playback mode, it can be used to play or pause the video.            In single-frame play mode, pressing the Enter button will play the video by a single frame.            And in auto sequence view mode, the buttons can be used to pause or resume auto sequence.</p>
<b>6</b>	<b>IR Receiver</b>	Receiver for IR remote.

**WH-N5316-P16**

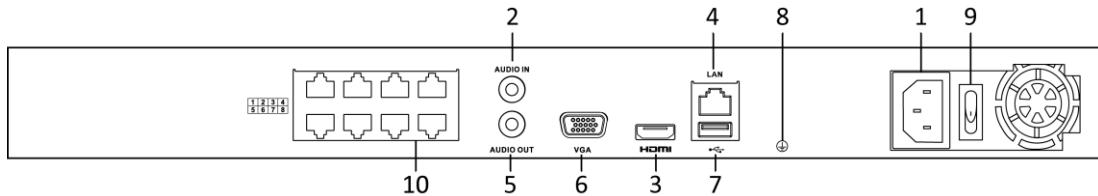
No.	Name	Function Description
1	<b>POWER ON/OFF</b>	Power on/off switch.
2	<b>USB Interface</b>	Connect to USB mouse or USB flash memory.
3	<b>IR Receiver</b>	Receiver for IR remote control devices.
4	<b>POWER</b>	Power indicator lights in green when DVR is powered up.
	<b>READY</b>	Ready indicator is normally green, indicating that the DVR is functioning properly.
	<b>STATUS</b>	Indicator turns green when DVR is controlled by an IR remote control with the address from 1~254; Indicator turns red when the SHIFT button is used; Indicator does not light when the DVR is controlled by a keyboard or by the IR remote control with the address of 255;
		Indicator turns green when the DVR is controlled by IR remote control (with the address from 1~254) and keyboard at the same time , and the SHIFT button is not used;
		Indicator turns orange : (a) when the DVR is controlled by IR remote control (with the address from 1~254) and keyboard at the same time and the SHIFT button is used as well; (b) when the DVR is controlled by IR remote control (with the address from 1~254) and the SHIFT button is used.
	<b>ALARM</b>	Alarm indicator turns red when a sensor alarm is detected.
	<b>HDD</b>	HDD indicator blinks in red when data is being read from or written to HDD.
	<b>Tx/Rx</b>	TX/RX indicator blinks in green when network connection is functioning properly.
5	<b>DVD-ROM</b>	Slot for DVD-ROM.
6	<b>DIRECTION</b>	The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. In All-day Playback mode, the Left/Right button can be used to select the recorded video of next/previous day; in Playback by Normal Video Search, the Left/Right button can be used to select the next/previous recorded file. In Live View mode, the directional buttons can be used to cycle through channels. In PTZ control mode, it can control the movement of the PTZ camera.
	<b>ENTER</b>	Confirm selection in any of the menu modes. It can also be used to tick checkbox fields. In Playback mode, it can be used to play or pause the video. In Single-frame Playback mode, pressing the ENTER button will advance the video by a single frame. In Auto-switch mode, it can be used to stop /start auto switch.
7	<b>SHIFT</b>	Switch of compound keys between the numeric/letter input and functional control.
	<b>1/MENU</b>	Enter numeral “1”; Access the main menu interface.
	<b>2ABC/F1</b>	Enter numeral “2”; Enter letters “ABC”; The F1 button can be used to select all items on the list; In PTZ Control mode, the F1 button can be used to zoom out (zoom-) the PTZ camera; In live view or playback mode, the F1 button can be used to switch between main and spot video output.
	<b>3DEF/F2</b>	Enter numeral “3”; Enter letters “DEF”;

		In PTZ Control mode, the F1 button can be used to zoom in (zoom+) the PTZ camera; The F2 button can be used to cycle through tab pages.
	<b>4GHI/ESC</b>	Enter numeral “4”; Enter letters “GHI”; Exit and back to the previous menu.
	<b>5JKL/EDIT</b>	Enter numeral “5”; Enter letters “JKL”; Delete characters before cursor; Select the checkbox and ON/OFF switch; Start/stop record clipping in playback.
	<b>6MNO/PLAY</b>	Enter numeral “6”; Enter letters “MNO”; In Playback mode, it is used for direct access to playback interface.
	<b>7PQRS/REC</b>	Enter numeral “7”; Enter letters “PQRS”; Manual record, for direct access to manual record interface; manually enable/disable record.
	<b>8TUV/PTZ</b>	Enter numeral “8”; Enter letters “TUV”; Access PTZ control interface.
	<b>9WXYZ/PREV</b>	Enter numeral “9”; Enter letters “WXYZ”; Multi-camera display in live view; In Playback mode or Menu→Playback→Tag playback interface, this button can be used to delete the selected tag.
	<b>0/A</b>	Enter numeral “0”; Switch between input methods (upper and lowercase alphabet, symbols and numeric input). In Playback mode, this button can be used to add the default tag.
8	<b>JOG SHUTTLE Control</b>	Move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In Playback mode, the inner ring is used to jump 30s forward/backward in video files. The outer ring can be used to speed up/slow down the video. In Live View mode, it can be used to cycle through different channels. In PTZ control mode, it can control the movement of the PTZ camera.

Rear Panel

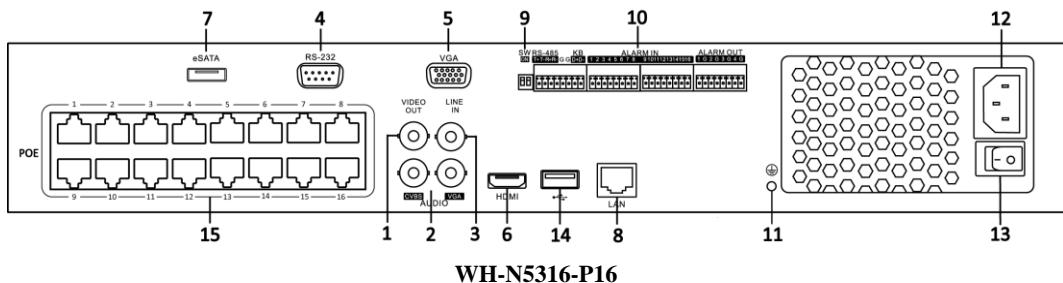


WH-N5204-P4



WH-N5208-P8

No.	Item	Description
<b>1</b>	<b>Power Supply</b>	48V DC power supply for 4ch NVR and AC 100~240V for 8ch and 16ch NVR
<b>2</b>	<b>Audio In</b>	RCA connector for audio input.
<b>3</b>	<b>HDMI Interface</b>	HDMI video output connector.
<b>4</b>	<b>LAN Network Interface</b>	10 /100 /1000 Mbps self-adaptive Ethernet interface
<b>5</b>	<b>Audio Out</b>	RCA connector for audio output.
<b>6</b>	<b>VGA Interface</b>	DB9 connector for VGA output. Display local video output and menu.
<b>7</b>	<b>USB Interface</b>	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
<b>8</b>	<b>Ground</b>	Ground (needs to be connected when NVR starts up).
<b>9</b>	<b>Power Switch</b>	Switch for turning on/off the device.
<b>10</b>	<b>Network Interfaces with PoE function</b>	Network interfaces for the cameras and to provide power over Ethernet.



WH-N5316-P16

No.	Item	Description
<b>1</b>	<b>VIDEO OUT</b>	BNC connector for video output.
<b>2</b>	<b>CVBS AUDIO OUT</b>	BNC connector for audio output. This connector is synchronized with CVBS video output.
	<b>VGA AUDIO OUT</b>	BNC connector for audio output. This connector is synchronized with VGA video output.
<b>3</b>	<b>LINE IN</b>	BNC connector for audio input.

No.	Item	Description
4	<b>RS-232 Interface</b>	Connector for RS-232 devices.
5	<b>VGA</b>	DB9 connector for VGA output. Display local video output and menu.
6	<b>HDMI</b>	HDMI video output connector.
7	<b>eSATA (Optional)</b>	Connects external SATA HDD, CD/DVD-RM.
8	<b>LAN Interface</b>	1 network interface
9	<b>Termination Switch</b>	RS-485 termination switch. Up position is not terminated. Down position is terminated with 120Ω resistance.
10	<b>RS-485 Interface</b>	Connector for RS-485 devices. T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively.
	<b>Controller Port</b>	D+, D- pin connects to Ta, Tb pin of controller. For cascading devices, the first NVR's D+, D- pin should be connected with the D+, D- pin of the next NVR.
	<b>ALARM IN</b>	Connector for alarm input.
	<b>ALARM OUT</b>	Connector for alarm output.
11	<b>GROUND</b>	Ground(needs to be connected when NVR starts up).
12	<b>AC 100V ~ 240V</b>	AC 100V ~ 240V power supply.
13	<b>POWER</b>	Switch for turning on/off the device.
14	<b>USB interface</b>	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
15	<b>Network Interfaces with PoE function</b>	Network interfaces for the cameras and to provide power over Ethernet.

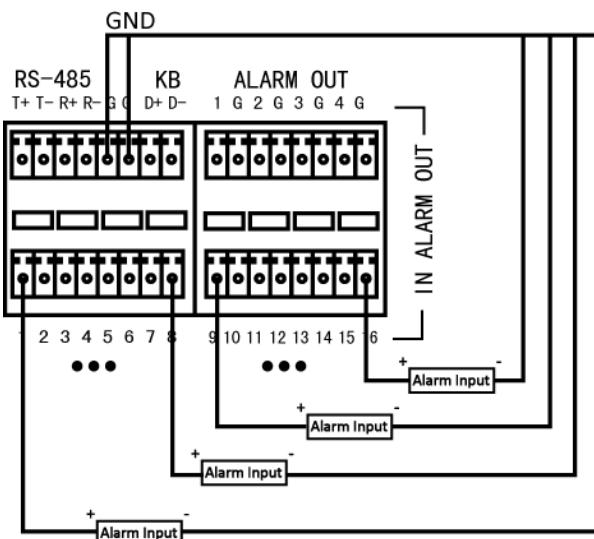
# Peripheral Connections

## Wiring of Alarm Input

The alarm input is an open/closed relay. To connect the alarm input to the device, use the following diagram.

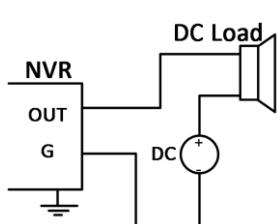


If the alarm input is not an open/close relay, please connect an external relay between the alarm input and the device.

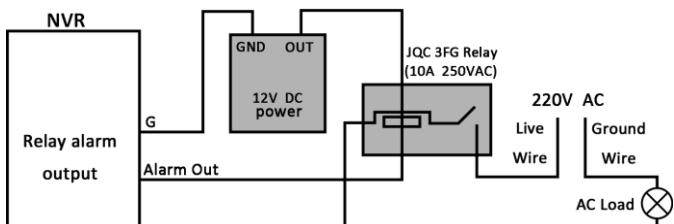


## Wiring of Alarm Output

To connect to an alarm output (AC or DC load), use the following diagram:



**DC Load Connection Diagram**



**AC Load Connection Diagram**

For DC load, the jumpers can be used within the limit of 12V/1A safely.

To connect an AC load, jumpers should be left open (you must remove the jumper on the motherboard in the NVR). Use an external relay for safety (as shown in the figure above).

There are 4 jumpers (JP1, JP2, JP3, and JP4) on the motherboard, each corresponding with one alarm output. By default, jumpers are connected. To connect an AC load, jumpers should be removed.

**Example:**

If you connect an AC load to the alarm output 3 of the NVR, then you must remove the JP 3.

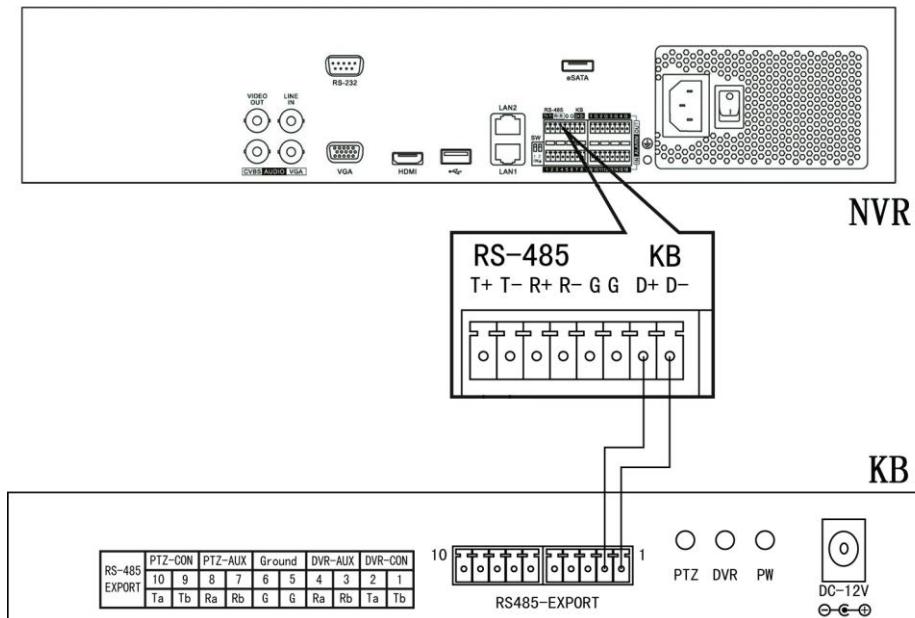
## Using of Alarm Connectors

To connect alarm devices to the NVR:

1. Disconnect *pluggable block* from the ALARM IN /ALARM OUT terminal block.
2. Unfasten stop screws from the *pluggable block*, insert signal cables into slots and fasten stop screws. Ensure signal cables are in tight.

3. Connect *pluggable block* back into terminal block.

## Controller Connection



To connect a controller to the NVR:

1. Disconnect pluggable block from the KB terminal block.
2. Unfasten stop screws from the KB D+, D- *pluggable block*, insert signal cables into slots and fasten stop screws. Ensure signal cables are in tight.
3. Connect Ta on controller to D+ on terminal block and Tb on controller to D- on terminal block. Fasten stop screws.
4. Connect *pluggable block* back into terminal block.



Make sure both the controller and NVR are grounded.

# Specifications

## Specifications of WH-N5204-P4 & WH-N5208-P8

Model		WH-N5204-P4	WH-N5208-P8
Video/Audio input	IP video input	4-ch	8-ch
	Two-way audio input	1-ch, RCA (2.0 Vp-p, 1kΩ)	
Network	Incoming bandwidth	25Mbps	50Mbps
	Outgoing bandwidth	80Mbps	
	Remote connection	32	128
Video/Audio output	Recording resolution	6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF	
	Frame rate	Main stream: 50 fps (P) / 60 fps (N)	
		Sub-stream: 50 fps (P) / 60 fps (N)	
	HDMI/VGA output	1-ch, resolution: 1920 × 1080P /60Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz	
Decoding	Audio output	1-ch, RCA (Linear, 1kΩ)	
	Live view / Playback resolution	6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF	
	Capability	4-ch@1080P	8-ch@720P, 6-ch@1080P
Hard disk	SATA	1 SATA interface for 1 HDD	2 SATA interfaces for 2 HDDs
	Capacity	Up to 4TB for each disk	
External interface	Network interface	1 RJ-45 10 /100 /1000 Mbps self-adaptive Ethernet interface	
	USB interface	1 × USB 2.0 and 1 × USB 3.0	
	Alarm in/out (Optional)	4 / 1	
PoE	Interface	4 independent 100 Mbps PoE network interfaces	8 independent 100 Mbps PoE network interfaces
	Max. Power	50W	120W
	Supported standard	AF and AT	
Others	Power supply	48V DC	220V AC
	Consumption (without hard disk and PoE)	≤ 10W	
	Working temperature	-10 °C ~ +55 °C (+14 °F~ +131 °F)	
	Working humidity	10 % ~ 90 %	
	Chassis	1U chassis	19-inch rack-mounted 1U chassis
	Dimensions (W × D × H)	315 × 230 × 45mm (12.4"×9.1"×1.8")	445 × 290 × 45mm (17.5" × 11.4" × 1.8")
	Weight (without hard disk)	≤ 1 kg (2.2 lb)	

## Specifications of WH-N5316-P16

Model		<b>WH-N5316-P16</b>
<b>Video/Audio input</b>	<b>IP video input</b>	16-ch
	<b>Two-way audio</b>	1-ch, BNC (2.0 Vp-p, 1kΩ)
<b>Network</b>	<b>Incoming bandwidth</b>	100Mbps
	<b>Outgoing bandwidth</b>	240Mbps
	<b>Remote Connection</b>	128
<b>Video/Audio output</b>	<b>Record resolution</b>	5MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF
	<b>Frame rate</b>	Main stream: 25 fps (P) / 30 fps (N)
		Sub-stream: 25 fps (P) / 30 fps (N)
	<b>CVBS output</b>	1-ch, BNC (1.0 Vp-p, 75 Ω) Resolution: 704 × 576 (PAL); 704 × 480 (NTSC)
	<b>HDMI output</b>	1-ch, resolution: 1920 × 1080P /60Hz, 1920 × 1080P /50Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz
	<b>VGA output</b>	1-ch, resolution: 1920 × 1080P /60Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz
	<b>Audio output</b>	2-ch, BNC (Linear, 600Ω)
<b>Decoding</b>	<b>Live view / Playback resolution</b>	5MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF
	<b>Capability</b>	16-ch@720P, 8-ch@1080P
<b>Hard disk</b>	<b>SATA</b>	4 SATA interfaces for 2 HDDs + 1 DVD-R/W (default), or 4HDDs
	<b>eSATA</b>	1 eSATA interface
	<b>Capacity</b>	Up to 4TB capacity for each HDD
<b>External interface</b>	<b>Network interface</b>	1 RJ-45 10 /100 /1000 Mbps self-adaptive Ethernet interface
	<b>Serial interface</b>	RS-232; RS-485; Keyboard
	<b>USB interface</b>	3 × USB 2.0
	<b>Alarm in</b>	16
	<b>Alarm out</b>	4
<b>PoE</b>	<b>Interface</b>	16 independent 100 Mbps PoE network interfaces
	<b>Max. Power</b>	200W
	<b>Supported standard</b>	AT and AF
<b>Others</b>	<b>Power supply</b>	100 ~ 240 VAC, 6.3 A, 50 ~ 60 Hz
	<b>Consumption (without hard disk, DVD-R/W or PoE)</b>	≤ 40W
	<b>Working temperature</b>	-10 °C ~ +55 °C (14 °F ~ 131 °F)
	<b>Working humidity</b>	10 % ~ 90 %
	<b>Chassis</b>	19-inch rack-mounted 1.5U chassis
	<b>Dimensions (W × D × H)</b>	445 × 390 ×70 mm ( 17.5" × 15.3" × 2.8" )
	<b>Weight (without hard disk or DVD-R/W)</b>	≤ 4 Kg (8.8 lb)

## HDD Storage Calculation Chart

The following chart shows an estimation of storage space used based on recording at one channel for an hour at a fixed bit rate.

Bit Rate	Storage Used
96K	42M
128K	56M
160K	70M
192K	84M
224K	98M
256K	112M
320K	140M
384K	168M
448K	196M
512K	225M
640K	281M
768K	337M
896K	393M
1024K	450M
1280K	562M
1536K	675M
1792K	787M
2048K	900M
4096K	1800M
8192K	3600M
16384K	7200M



Please note that supplied values for storage space used is just for reference. The storage values in the chart are estimated by formulas and may have some deviation from actual value.

# Accessing by Web Browser

## Logging In

You can get access to the device via web browser. Open web browser, input the IP address of the device and then press Enter. The login interface appears.



Input the user name and password, and click the **Login** button.

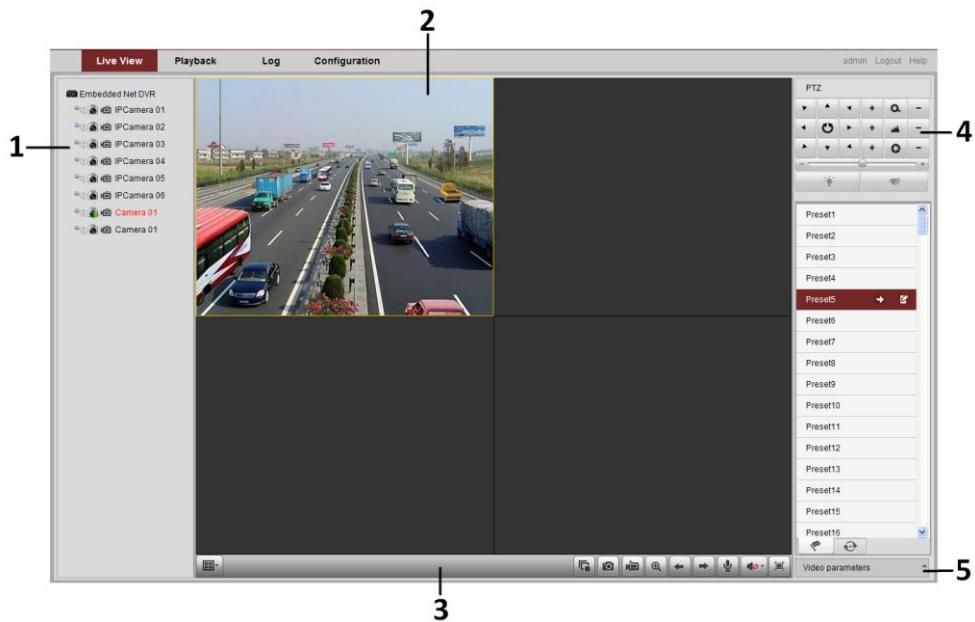


- The default IP address is 192.0.0.64.
- The default user name is admin, and password is 12345.
- You may use one of the following listed web browsers: Internet Explorer 6.0, Internet Explorer 7.0, Internet Explorer 8.0, Internet Explorer 9.0, Internet Explorer 10.0, Apple Safari, Mozilla Firefox, and Google Chrome.
- The supported resolutions include 1024\*768 and above.

When you log in for the first time, the system will remind you to install the Plug-in control. After the installation, you can configure and manage the device remotely.

## Live View

The live view interface appears by default when you log in the device.



### Interface Introduction

No.	Name	Description
1	Channel List	Displays the list of channels and the playing and recording status of each channel.   The stream type can be switched by clicking the icon before the channel name:  stands for main stream and  for sub-stream.
2	Live View Window	Displays the image of channel, and multi-window division is supported.
3	Play Control Bar	Play control operations are supported.
4	PTZ Control	Pan, tilt, zoom operations are supported, as well as preset and patrol editing and calling.   PTZ function can only be realized if the connected camera supports PTZ control.
5	Video Parameters Configuration	Brightness, contrast, saturation and hue of the image can be edited.

### Start Live View

#### Steps:

- In the live view window, select a playing window by clicking the mouse.
- Double click a camera from the device list to start the live view.
- You can click the  button on the toolbar to start the live view of all cameras on the device list.

Refer to the following table for the description of buttons on the live view window:

Icon	Description	Icon	Description
	Select the window-division mode		Open/Close audio
	Start/Stop all live view		Start/Stop two-way Audio
	Capture pictures in the live view mode		Adjust volume
	Start/Stop all recording		Enable/Disable digital zoom
	Previous/Next page		Full screen

### Recording

#### Before you start

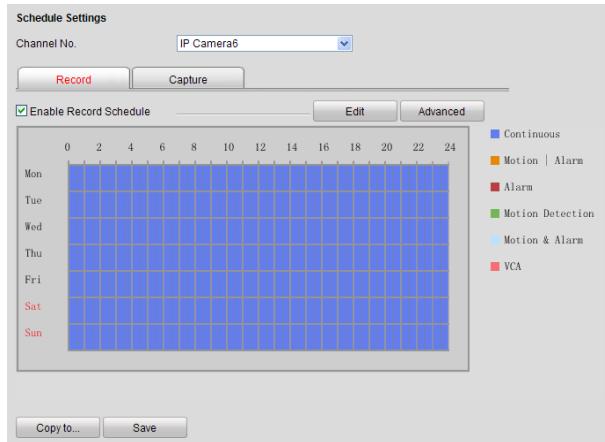
Make sure the device is connected with HDD or network disk, and the HDD or network disk has been initialized for the first time to use.

Two recording types can be configured: Manual and Scheduled. The following section introduces the configuration of scheduled recording.

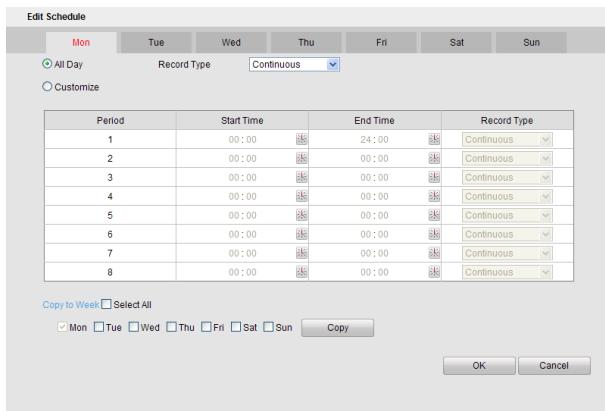
#### Steps:

- Click Remote Configuration> Camera Settings> Record Schedule to enter Record Schedule settings interface.
- Select the camera to configure the record schedule.

- Check the checkbox of Enable Schedule to enable recording schedule.



- Choose the day in a week to configure scheduled recording.
- Click **Edit** to edit record schedule.



- Configure All Day or Customize Record:

- If you want to configure the all-day recording, please check the **All Day** checkbox.
- If you want to record in different time sections, check the **Customize** checkbox. Set the **Start Time** and **End Time**.



Up to 8 segments can be configured and each segment cannot be overlapped.

- Select a **Record Type**. The record type can be Continuous, Motion, Alarm, Motion & Alarm, Motion | Alarm and VCA.
- Check the checkbox of **Select All** and click **Copy** to copy settings of this day to the whole week. You can also check any of the checkboxes before the date and click **Copy**.
- Click **OK** to save the settings and exit the **Edit Schedule** interface.
- Click **Advanced** to configure advanced record parameters.
- Click **Save** to validate the above settings.
- (Optional) You can click the **Copy to...** button to copy the same setting to other cameras.

## Playback



### Interface Introduction

No.	Name	Description
1	Channel List	Displays the list of channels and the playing status of each channel.
2	Playback Window	Displays the image of channel.
3	Play Control Bar	Play control operations are supported.
4	Time Line	Displays the time bar and the records marked with different colors.
5	Playback Status	Displays the playback status, including channel number and playback speed.
6	Calendar	You can select the date to play.

### Start Playback

#### Steps:

1. Click **Playback** on the menu bar to enter playback interface.
2. Click the camera from the device list for playback.
3. Select the date from the calendar and click **Search**.
4. Click the button to play the searched video file on the current date.
5. Use the buttons on the toolbar to operate in playback mode.



Playback Control Buttons Description

Area	Description	Area	Description
	Play/Pause		Stop
	Slow down		Speed up
	Play by single frame		Capture
	Stop all playback		Download
	Video clip		Open/Close audio

Area	Description	Area	Description
	Full screen		Transcoded playback
	Reverse playback		Window division

6. You can drag the progress bar with the mouse to locate the exact playback point. You can also input the time

in the textbox and click and button to locate the playback point.

The color of the video on the progress bar stands for the different video types.

Command Schedule Recording Alarm Recording Manual Recording



To play back recording files from different channel, you may set the window division mode by clicking the button and choose a window, and then repeat the above steps 2-4.

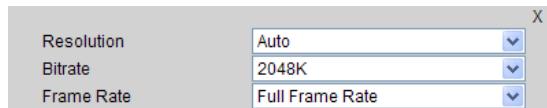
## Transcoded Playback

### Purpose:

To save the bandwidth cost, the transcoded playback can be adopted.

### Steps:

1. Make sure the playback of current channel is stopped.
2. Move the mouse to the icon and edit the required parameters for transcoded playback, including Resolution, Bitrate, and Frame Rate.



3. Click the button, if it turns to , then the transcoding process is completed.
4. Click the button to start transcoded playback.

## Log

You can view and export the log files at any time, including operation, alarm, exception and information of device.

### Before you start:

The Log function can be realized only when the device is connected with HDD or network disk.

### Steps:

2. Click **Log** on the menu bar to enter the Log interface.
3. Set the log search conditions to refine your search, including the Major Type, Minor Type, Start Time and End Time.
4. Click the **Search** button to start searching log files.
5. The matched log files will be displayed on the list.



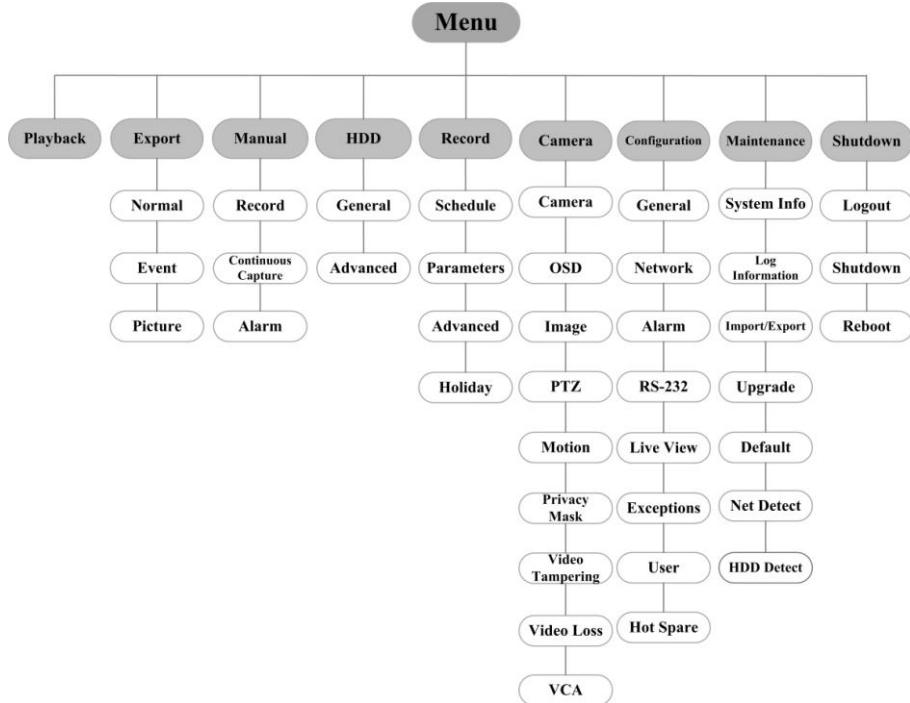
Up to 2000 log files can be found each time, and 100 log files can be displayed on each page.

You can click the button to save the searched log files to local directory.

# Menu Operation

## Menu Structure

The menu structure of the WH-N52xx Series NVR:



## Startup and Shutdown

Proper startup and shutdown procedures are crucial to expanding the life of the NVR.

To start your NVR:

1. Check the power supply is plugged into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the device. The Power button (for the WH-N5316-P16 series NVR) on the front panel should be red, indicating the device gets the power supply.
2. Press the POWER button on the front panel. The Power LED should turn blue (for the 4/8CH series NVR) or green (for the 16CH series NVR). The unit will begin to start.  
After the device starting up, the wizard will guide you through the initial settings, including modifying password, date and time settings, network settings, HDD initializing, and recording.

To shut down the NVR:

1. Enter the Shutdown menu.

Menu > Shutdown



2. Select the **Shutdown** button.
3. Click the **Yes** button.

## Live View

Some icons are provided on screen in Live View mode to indicate different camera status. These icons include:

### Live View Icons

In the live view mode, there are icons at the upper-right corner of the screen for each channel, showing the status of the record and alarm in the channel, so that you can find problems as soon as possible.



Alarm (video loss, tampering, motion detection or sensor alarm)



Record (manual record, schedule record, motion detection or alarm triggered record)



Alarm & Record



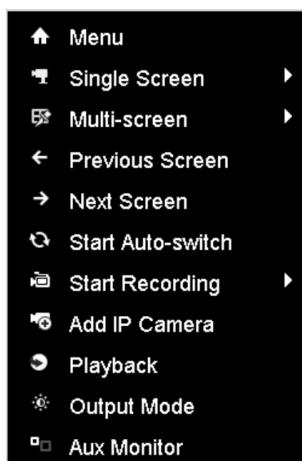
Event/Exception (event and exception information, appears at the lower-left corner of the screen.)

## Adding IP Cameras

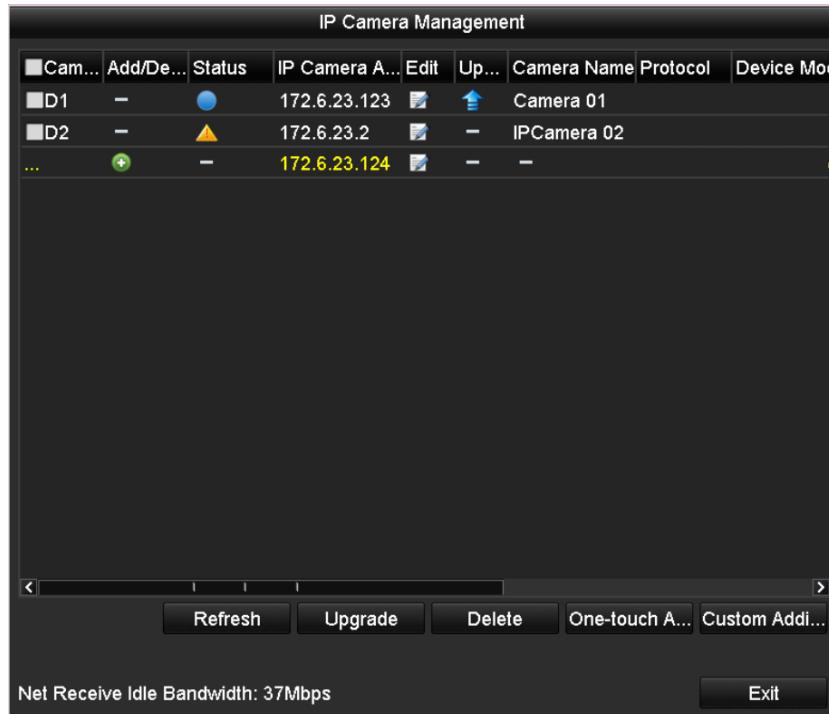
You should add and configure the online IP cameras to enable the live view and recording function.

### Steps:

1. Right-click the mouse when you in the live view mode to show the right-click menu.



2. Select **Add IP Camera** in the pop-up menu to enter the IP Camera Management interface.



3. The online cameras with same network segment will be displayed in the camera list. Click the button to add the camera.

Or you can click the **One-touch Adding** button to add all the online IP cameras.



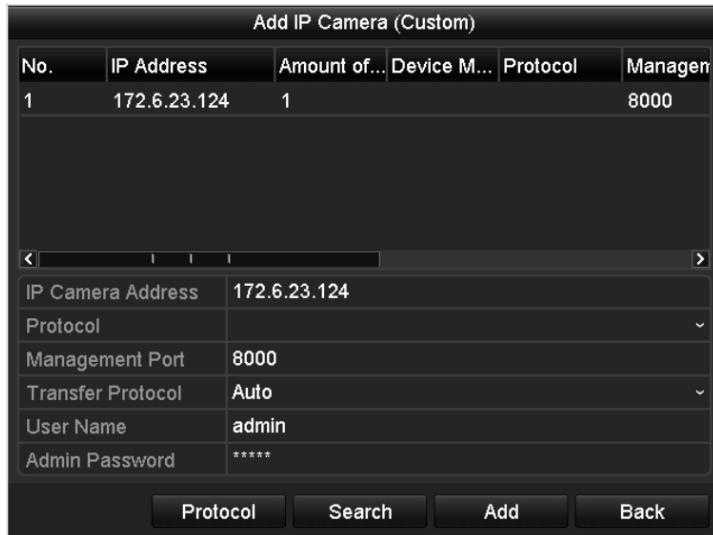
The added camera is marked in white while the camera has not been added is marked in yellow.

Explanation of the icons

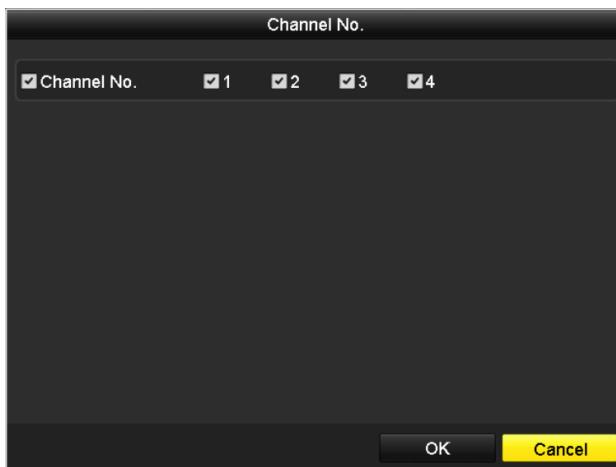
Icon	Explanation	Icon	Explanation
	Edit basic parameters of the camera		Add the detected IP camera.
	The camera is connected.		The camera is disconnected; you can click the icon to get the exception information of camera.
	Delete the IP camera		Advanced settings of the camera.

4. To add other IP cameras:

- 1) Click the **Custom Adding** button to pop up the Add IP Camera (Custom) interface.



- 2) You can edit the IP address, protocol, management port, and other information of the IP camera to be added.
- 3) Click **Add** to add the camera.
- 4) (For the encoders with multiple channels only) check the checkbox of Channel No. in the pop-up window, as shown in the following figure, and click **OK** to finish adding.



## Recording

### *Before you start:*

Make sure that the HDD has already been installed. If not, please install a HDD and initialize it. You may refer to the user manual for detailed information.

### *Purpose:*

Two kinds of record types are introduced in the following section, including Instant Record and All-day Record. And for other record types, you may refer to the user manual for detailed information.



After rebooting all the manual records enabled are canceled.

### Instant Recording

On the live view window of each channel, there is a quick setting toolbar which shows on the bottom of the

window when you click on it.



Click the icon to enable the record, and the icon turns to . And click icon to disable the record,

then the icon turns to .

## All-day Recording

*Steps:*

1. On the live view window, right click the window and move the cursor to the **Start Recording** option, and select **Continuous Record** or **Motion Detection Record** on your demand.
2. And click the **Yes** button in the popup Attention message box to confirm the settings.

Then all the channels will start to record in the selected mode.

## Playback

Play back the record files of a specific channel in the live view menu. Channel switch is supported.

### ● Option 1:

Choose a channel under live view using the mouse and click the button in the shortcut operation menu.



Only record files recorded during the past five minutes on this channel will be played back.

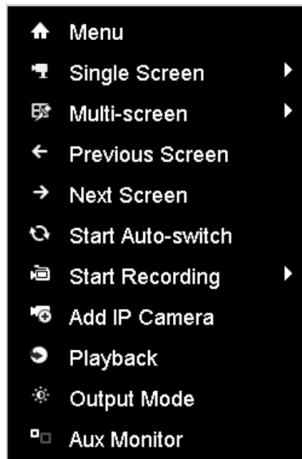


### ● Option 2:

*Steps:*

1. Enter the Playback menu.

Mouse: right click a channel in live view mode and select Playback from the menu.



Front Panel: press PLAY button to play back record files of the channel under single-screen live view.

Under multi-screen live view, record files of the selected channel will be played back.



Pressing numerical buttons will switch playback to related channels during playback process.

## 2. Playback management.

The toolbar in the bottom part of Playback interface can be used to control playing process.



Just check the channel or channels if you want to switch playback to another channel or execute simultaneous playback of multiple channels.

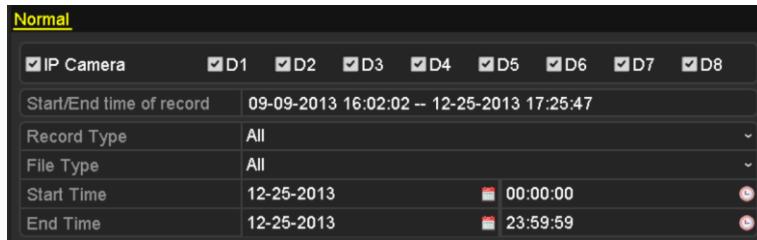
## Backup

Recorded files can be backed up to various devices, such as USB flash drives, USB HDDs or a DVD writer.

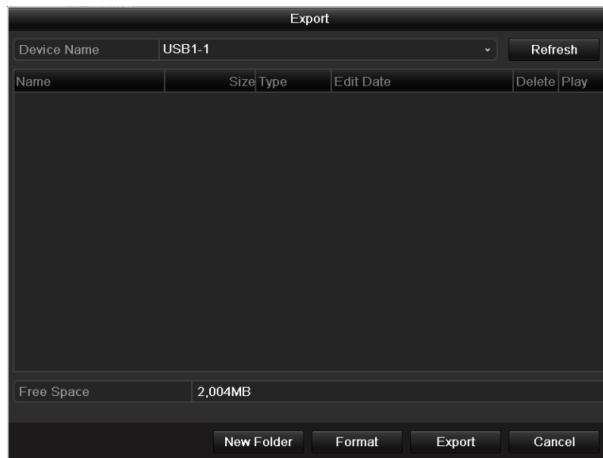
### Steps:

#### 1. Enter Video Export interface.

Choose the channel(s) you want to back up and click on the **Quick Export** button.



- Enter Export interface, choose backup device and click **Export** button to start exporting.



- Check backup result.

Choose the record file in Export interface and click button to check it.

